

IDENTIFIED CALL		
TOPIC	Upgrading smartness of existing buildings through innovations for legacy equipment	
Type of Action	IA Innovation action	
Hyperlink CALL	Link	
Open call	24 th January 2019	
Deadline CALL 1st stage	3rd September 2019	
Challenge	<p>An essential part of Europe's clean energy transition is the changing role of buildings from energy consumers to actively controlling and optimising indoor environment while contributing to energy system flexibility by ensuring distributed energy generation from renewable energy sources, energy storage, facilitate smart charging of EVs, load reduction through energy efficiency and load shifting through demand response. Innovative technologies will enable smart buildings to interact with their occupants and the grid in real time and to manage themselves efficiently, so as to become an active element of the energy system. Intelligent and connected devices, sensors and controllers, supported by the development of new business models for new energy services, will create new opportunities for energy consumers.</p> <p>Today in the EU, the existing building stock represents the main challenge for a more efficient energy use, in buildings as well as across the whole energy system. The smart readiness of buildings may evolve faster for devices and systems easily replaced and installed, than for other parts of the building's equipment such as HVAC and DHW systems etc. due to higher costs of replacement, longer lifecycles and difficulties related to the integration in buildings. This installed equipment remains highly relevant for buildings interactions with the energy system, making its upgrade to higher levels of smartness an essential step.</p>	
Scope	<p>Proposals should develop and demonstrate cost-effective technological solutions to manage energy within existing buildings and interact with the grid providing energy efficiency, flexibility, generation and storage, based on user preferences and requests. These solutions should be aimed to upgrade existing buildings, either residential or tertiary, using automation and IT to offer new services and control to the building users, thereby improving their comfort and increasing their satisfaction. Proposals should demonstrate how the smart systems, smart controls and smart appliances can be integrated seamlessly in existing buildings to interface and/or to control the major energy consuming domestic appliances that are already installed. These pilots should involve several types of domestic appliances and technical building systems with longer lifecycles (boilers, radiators, DHW preparation, motors for ventilation, windows opening and shading; lighting etc.) and with shorter lifecycles (dryers, washing machines, fridges, etc.), testing several types of control modes (ON/OFF, power modulation, etc.) possible for a given type of appliance. Recharging points for electric vehicles and other forms of energy storage should also be incorporated in the pilots. The proposed solutions should not adversely affect the original functionalities, product quality, lifetime, as well as warranties of the appliances.</p>	
Impact	<ul style="list-style-type: none"> • Primary Energy savings triggered by the project (in GWh/year); • Investments in sustainable energy triggered by the project (in million Euro); • Upgrade of existing buildings to higher smartness levels, including a significantly enlarged base of existing building equipment and appliances monitored by energy management systems and activated through demand response actions; • Reduction in energy consumption and costs, exceeding the additional consumption from IT and its cost. 	
Budget call (and for project)	Between EUR 3 and 4 million would allow this specific challenge to be addressed appropriately.	